

INDEX TO VOLUME 166, JANUARY-JUNE, 1942

AGRICULTURE

Bamboo, Usefulness of.....	242
Evergreens, Causes of Browning.....	143
Peat, Alaskan Deposits of.....	198
Seed Stock, Value of Stored.....	78
Soil Testing.....	188
Soy Beans, Uses of.....	195
Weed Killer.....	139

ARCHEOLOGY, ANTHROPOLOGY and ETHNOLOGY

American Indians Were Gem Collectors.....	141
Life on Earth, Earliest Record of.....	72
Ostia, Rome's Ancient Seaport.....	70
Roman City, Discovery of.....	196
Skull Cups, Kodiak Island.....	197
Smoking, Early Use of.....	197

ARMY AND NAVY. See WAR

ASTRONOMY

Congress, Inter-American.....	230
Double Star Orbit.....	274
Galaxies, Rotating.....	69
McDonald Observatory 80-inch Telescope.....	230
Mexican National Observatory.....	18
Molecular Spectra of Stars.....	68
Neon in the Stars.....	180
Pleiades, Investigation of.....	170
Pyrheliometer.....	17
200-inch Telescope, Progress of.....	17

AUTOMOBILES

Anti-Freeze, Conservation of.....	28
Crank-Case Oil Reclamation.....	141
Diesel Filters, Improved.....	176
Fuel Economy, Indicator of.....	90
Inspectors' Cars, Tunnel.....	197
Jeeps, United States Army.....	6
Mileage, Average.....	140
Post Office Routes, Highway.....	287
Radiator Sealing.....	28, 80
Reconnaissance Cars, Rollers on.....	187
Reconnaissance Cars, Winches on.....	244
Tire Recapping.....	173
Tire Testing.....	141
Truck, All-Wheel-Drive.....	82
Vehicle Operation, Officers Taught.....	58

AVIATION

Air Arm of U. S. Navy.....	121
Aircraft Carrier (Saratoga).....	113
Airplane Assembly Line.....	100
Armor, Airplane.....	37
Army Air Corps Development.....	147
Civil Air Patrol.....	206
Clothing, Heated.....	255
Cloud Charge Indicator.....	54, 78
Dual Purpose Plane, British.....	288
Dynamometer, Huge.....	301
Engine, Gasoline, for Model Planes.....	37
Flying Boat (Mare).....	98
Grass Cutter, Airport.....	255
High Altitude Research (Douglas).....	27
Jet Propulsion, Italian.....	254
Light Plane (Skyfarer).....	98
Light Planes in National Defense.....	99
Military Rockets.....	97
Night Vision, Study of.....	146
Parachute Troopers, Life Savers for.....	29
Pilots, Hobbies for.....	123
Plane Detector, Portable.....	148
Plywood Airplane Floats.....	271
Plywood Planes.....	205
Post-War Possibilities.....	36
Prone Flying.....	300
Rescue Launches for Air Force.....	301
Thunderbolt Interceptor.....	100
Windshield De-icer.....	205

BIOGRAPHY and PORTRAITS

Condon, E. U.....	224
Herrington, A. W.....	219
Sloan, Alfred P., Jr.....	115
Wright, Milton.....	114

BIOLOGY

Animals Live Without Water.....	79
Euglena, Color of.....	192
Hybrid—Goose.....	139

BUILDING CONSTRUCTION

Cement Reduces Athlete's Foot.....	11
Glass Block, Light Refracting.....	62

Glass Blocks, Transparent.....	15
Insulation, Fiber Glass.....	234
Wall Paneling, Sound Insulating.....	32

CHEMISTRY

Acid Indicator, Industrial.....	150
Alcohol as Power Fuel.....	198
Chemical Engineers, Listing of.....	15
Chemical Industry in Wartime.....	278
Crystals Identified.....	190
Fire Extinguishers, Carbon Dioxide.....	269
Fire-Proof Fabrics.....	200
Gasoline Refining.....	12
Glue vs Plastic.....	190
Ozone, Study of.....	241
Paper Bleaching, Chlorine in.....	251
Solutions Checked Electrically.....	175
Solvent Recovery, Still for.....	253
Sulfamic Acid in Industry.....	140
Tartaric Acid from Corn.....	198
Wax, Synthetic, for Paints.....	96

ELECTRICITY

Aluminum, Electricity in Making.....	232
Battery Charger, Portable.....	90
Blackout Bulbs.....	200, 271
Clothing, Electrically Heated.....	255
Coil Testing, Automatic.....	288
Commutators, Cleaning Motor.....	299
Deodorizer, Portable.....	196
Earth Resistivity.....	170
Extension Light, Low Voltage.....	144
Fluorescent Tubes, Small.....	196, 289
Foot Switch, Start Stop.....	151
Fuse Holder.....	139
Heart of Unborn Baby, Hearing.....	184
Induction Hardening.....	203
Insulating Tube, Flexible.....	242
Lightning, Study of.....	287
Magnesium, Electricity and.....	235
Mobile Power Plants.....	88
Motors, Light Weight.....	253
Paging System.....	292
Plane Detector, Portable.....	271
Relays, Low-Power.....	204
Solutions Checked Electrically.....	175
Strain Gage, Electrical.....	203
Sun, Power From the.....	284
Test Generators, High-Power.....	171
Tire Insulation, Space Saving.....	82
X-Ray Photography, High Speed.....	268, 293

ENGINEERING, CIVIL and MECHANICAL

Central Valley Project, California.....	178
Friant Dam, California.....	162
Inspectors' Cars, Tunnel.....	197
Oil Wells, Cementing Deep.....	272
Overpass, Portable Highway.....	124
Shasta Dam, California.....	178
Steel Sheets, Stressed.....	294
Sun, Power From the.....	284
Tool Workers Trained by Movies.....	14, 103
Tunnel Ventilation.....	30
Water Purification, Commercial.....	136

FIREARMS

"Gamemaster" Rifle (Remington).....	43
Rifle Restocking.....	42

FISH and FISHING

Fish Reaction to Air Raids.....	194
Transport Tanks, Aerating.....	240

FOODS

Bread, Anti-Mold Agent in.....	189
Coffee, Frozen.....	80
Diet, Planning Adequate.....	75
Feeding Our Allies.....	117
Fruit, Moisture-Proof Wrapping for.....	81
Nutrition, Adequate.....	117
War-Time Garden.....	51
Wheat, Method of Peeling.....	25

FORESTRY. See also WOOD

Evergreens, Causes of Browning.....	143
Forest Fires, Reduction of.....	202

FUELS

Alcohol as Power Fuel.....	198
Fuel Economy Indicator.....	90
Gasoline, Molecular Structure of.....	167
Gasoline, Sulfur Removal in.....	12
Gasoline, Wartime.....	288
Sawdust Burned in Furnaces.....	292

GEOLOGY

Fulgurites, Artificial.....	290
Glaciers, Sierra Nevada.....	196
Meteorite Craters, Exploring Texas.....	138
Mima Mounds.....	247
Nitrogen Well.....	290
Peat, Alaskan Deposits of.....	198

GLASS

Building Blocks, Transparent.....	15
Glass Block, Light Refracting.....	62
Insulation, Fiber Glass.....	234

INDUSTRY

Aluminum from Clay.....	130
Aluminum, Why Shortage of.....	232
Brick Work Coating, Liquid.....	292
Bulk Material Settling Device.....	34
Chemical Engineers, Listing of.....	15
Chemical Industry in Wartime.....	278
Cork Coating Stops Drip.....	249
Cork, Substitutes for.....	67
Decalcomanias, Photographic.....	194
Drafting Board, Flexible.....	65
Glues, Improved.....	282
Gland and Finger Guards.....	92
Hand Protecting Cream.....	33
Industrial Production, Percent of.....	177
Industry Learns From Defense.....	16
Inspection Magnifier, Illuminated.....	96
Instruments, Fast Production of.....	280
Inventors, Individual.....	283
Iron from Low-Grade Ore.....	175
Labor Aided by Research.....	17
Lamp Production, Speeding.....	187
Lighting Reduces Hazards.....	63
Machine-Tool Production, Increased.....	64
Machine-Tool Studies, Photographic.....	60
Magnesium, U. S. Production of.....	282
Manganese, Production of.....	176
Marking Press, Hand Operated.....	32
Metal Parts, Checking Clean.....	298
Metal Substitutes in Telephones.....	129
Metal Surfaces, Cleaning.....	299
Military Needs Aid Industry.....	131
Movies Train Shopworkers.....	257
Noise, Ear Plugs Protect Against.....	75
Packaging Changes.....	177
Paper Production, War Effects on.....	299
Paper Tubes, Precision.....	299
Patents and Free Enterprise.....	238
Post-War Aviation.....	300
Powder Metallurgy, Progress in.....	32
Production Bottlenecks.....	237
Refrigeration in Industry.....	65
Respirators, Light Weight.....	34
Rosin Derivatives, Increase in.....	15
Sand Blaster, Portable.....	298
Solutions Checked Electrically.....	175
Solvent Recovery, Still for.....	253
Soy Beans, Uses of.....	195
Spray Control, Photo-Electric.....	93
Steel, Surface Hardening.....	64
Strain Gage, Electrical.....	203
Synthetic Rubber, Plans for.....	177
Synthetics Not Always Substitutes.....	16
Templates, Reproducing.....	254
Trends, Industrial, and War.....	67
Typewriters, Curtailment of.....	177
Vegetable Oils, Sources of.....	236
War Materials, Mass Production of.....	66
Water Dispenser, Portable.....	64
Water, Pure, Without Distillation.....	149
Wood, Modern Uses of.....	282

INSECTS

Insecticide Test.....	246
Japanese Beetle, Fighting the.....	82

LIGHT

Blackouts, Fluorescent Materials for.....	123
Bulbs, Blackout.....	200, 271
Extension Light, Low Voltage.....	144
Eye, Sensitivity of the.....	226
Flashlight Combination, Emergency.....	90
Fluorescent Tube, Portable.....	146
Fluorescent Tubes, Small.....	196, 289
Fluorescent Tubes in Television.....	195
Fog Piercing.....	244
Industrial Lighting Reduces Hazards.....	63
Sodium Vapor Lights on Canal.....	78

MEDICINE and HEALTH

Adequate Diet, Planning.....	75
Antibodies, Action of.....	229
Arthritis, Rheumatic Fever and.....	296
Athlete's Foot, Reduction of.....	11
Bacteria, Effectiveness of.....	184
Blood Types Quickly Determined.....	120
Brain Weight.....	145
Cadmium Plating, Dangers of.....	296
Chicken Heart Tissue, Status of.....	282

Germs Killed by Ultra-Violet	297
Gray Hair, Vitamin B for	120
Heart of Unborn Baby, Hearing	184
Heterophoria, Exercise for	227
Ice Anesthesia	182
Infantile Paralysis, Flies and	184
Insane Asylums, Conditions in	11
Insanity, Forms of	9
Insulin, Sight Impaired by	11
Mental Control of the Physical	120
Night Vision, Study of	146
Ozone, Effects of	241
Pork, Safe	296
Relax, How to	229
Stuttering, Cause of	229
Sugar, Restricted Use of	296
Sulfa Drugs, Pronunciation of	184
Sulfa Drugs for Dogs	194
Sulfanilamide, Action of	228
Surgery, Shockless	182
Vigor, Rules for Maintaining	73
Water Ozonation	192

METALS and METALLURGY

Aluminum, Why Shortage of	232
Aluminum from Clay	130
Corrosion Replaces Galvanizing	63
Induction Hardening	203
Iron from Low-Grade Ore	175
Magnesium, Electricity and	235
Magnesium, U. S. Production of	282
Manganese, Production of	176
Metal Parts, Checking Clean	298
Metal Substitutes in Telephones	129
Metal Surfaces, Cleaning	299
Mill Waste Reclaimed	175
Molybdenum, Uses of	67
Nickel, Salvage of	281
Scrap Metal Cutter	246
Soldering Units	198
Stainless Steel Smoke Stacks	286
Steel, Surface Hardening	64
Steel Sheets, Stressed	294
Steels, Wartime Uses of	290
Tin Surfaces, Repairing	198
Wire Salvage, Telephone	175

METEOROLOGY

Cloud Charge Indicator	54, 78
Lightning, Study of	287

MISCELLANEOUS

Alphabet Letters Found in Desert	26
Bamboo, Usefulness of	242
Bats, Eliminating	139
Cellophane Bags, Printed	289
Clay, High-Grade for China	91
Floors, Slip-Proof	299
Fulgurites, Artificial	290
Furniture Repair Kit	244
Golf Balls, Recovering	295
Hole Plug, Plastic	79
Index System, Office	144
Meteorite Craters, Exploring Texas	138
Parts Container, Transparent	289
Patching Material for Home Repairs	91
Patent Office, Moving the	114
Patents and Free Enterprise	238
Phone Holder	248
Post Office Routes, Highway	287
Printing Presses Yield High Gloss	66
Putty, Crack-Proof	31
Record Cards, Film Protects	142
Refrigerated Shipping Containers	287
Soldering Units	198
Sports Equipment, Conserving	241
Water, Clear, in Metal Tanks	140
Weed Killer for Lawns	139
Wrist Watch, Highly Accurate	88
Writing Projector for Teaching	140
Yacht, All-Metal	79, 187

NATIONAL DEFENSE. See WAR.

OIL and LUBRICATION

Crank-Case Oil Reclamation	141
Lead-Rubber Lubricating Gasket	66
Mississippi, Transportation on	242
Oil Wells, Cementing Deep	272
Pipe Lines, 1941 Construction of	176

OPTICS

Eye, Sensitivity of the	226
Eye Accidents, Cost of	15
Heterophoria, Exercise for	227

PAINTS and VARNISHES

Paint Cleaner	82
Paint Coatings, Testing	76
Paint Remover	91
Phosphorescent Paint	143
Stripper, Electrically Heated	288
Vegetable Oils, Sources of	236
Wax, Synthetic, for Paints	96

PHOTOGRAPHY and MOVING PICTURES

Background, Cobbles in	303
Blow-Ups, Minimum	153

Camera, Holding	302
Cameras, Large vs Small	256
Candid Photography	208
Child Photography	257, 303
Club Auction of Equipment	105
Club Programs	103
Color Cartoons	102
Color Photography, Uses of	302
Color Printing, Movie of	40
Composition	40
Condenser Lens, Scratched	207
Contest Winners, Scientific American	104
Corks, Bottle	105
Decalcomanias, Photographic	194
Defense Uses of Photography	207
Diamond Photography	256
Diffuser, Acetate	303
Dog Photography	102
Films for Worker Training	257
Flash Bulbs, Supply of	256
Flash and Flood Guide	40
Glycerine in Processing	103
Ground Glass, Using	303
Icebergs, Imitation	103
Infra-Red Film	209
Kodacolor Prints	101
Lens, Automatic Focusing	142
Machine-Tool Studies, Photographic	60
Military Uses of Photography	41
Movies Train Tool Workers	14, 103
Moviquis	302
Perspective, Utilizing	208
Pictorialism, Repose on	103
Portraiture, Professional	38
Print Reducer	208
Professional-Amateur Co-operation	39
"Props", Variety in	39
Reflector Material	39
Repairs, Campaign for	105
Retouching Easel	208
Sink, Wooden	303
Slide-Binding	257
Smoker, Darkroom	303
Snow, Synthetic	102
Spot-Light Lighting	103
Static, Reducing Darkroom	256
Stroboscopic Multiflash	152
Table-Top Trees	302
Tone Separation	302
Tone Treatment for Prints	40

PHYSICS

Crystals, Identifying	190
Electron Microscope, Stereoscopic	170
Element 61 Produced	170
Gasoline, Molecular Structure of	167
Magnetic Properties, Delayed	226
Physicists, Demand for	224
Pyreheliometer	170
Solid-Liquid Demarcation Line	246

PLASTICS

Glue vs Plastic	190
Hole Plug, Plastic	79
Molding for Linoleum	247
Parts Container, Transparent	289
Plastic Tube (Saran)	280
Priorities on Formaldehyde Plastics	14
Samples Imbedded in Clear Plastic	130
Trim Strips of Plastic	80
Tubing, Transparent (Tenite)	249

PSYCHIC RESEARCH

Clock Stopping Explained	132
Magician Demonstrates Mediums' Tricks	20
Mediums, Challenge to	84

RADIO

Operators, Training	81
Substitutions in Radio Sets	14

RAILROADS

Coach-Sleeper	88
Coast-Rail Vehicle	242

RAYS

Electron Microscope, Stereoscopic	170
Germs Killed by Ultra-Violet	297
Heel Inspection, X-Ray	250
Infra-Red Photography Film	209
Radium Detector	29
X-Ray Photography, High-Speed	268, 293

RESEARCH

Chicken Heart Tissue, Status of	22
Crystal Structure Demonstrated	24
Diesel Filters, Improved	176
Fog Piercing	244
High Altitude Research (Douglas)	27
Hydraulic Press, Laboratory	95
Industrial Research, Cost of	65
Instruments, Most Outstanding	145
Labor Aided by Research	17
Magnetic Properties, Delayed	226
Military Needs Aid Industry	131
Powder Metallurgy, Progress in	32

Research Unit (Auto-Ordnance)	235
Test Generators, High-Power	171

RUBBER

Conservation of Rubber Goods	130
Heels, Inspection of	250
Lead-Rubber Lubricating Gasket	66
Natural Rubber, Sources of	276
Synthetic Rubber, Petroleum and	236
Synthetic Rubber, Plans for	177
Synthetic Rubber Plant (Koroeseal)	166
Tire Recapping	173
Tire Testing	141

SAFETY

Eye Accidents, Cost of	15
Fire Alarm, Blank Cartridge	248
Fire Extinguishers, Carbon Dioxide	269
Fire-Safe Air Conditioning Equipment	199
Hand and Finger Guards	92
Respirators, Light Weight	34
Water Ozonation	192

SYNTHETIC RUBBER. See RUBBER

TEXTILES

Fire-Proof Fabrics	200
Fluorescent-Dyed Cloth	123
Soybean Fiber	176

TOOLS

Countersink, Adjustable	253
Demagnetizer, Shop	203
Dies, Duplicating Without	128
Drills for Hardened Steel	93
Gas Cutting Torch Holder	151
Glue Spreader	92
Inserts for Air Blast Nozzles	150
Knurling Tool	150
Leveling Machine Tools	149
Marking Press, Hand Operated	32
Movies Train Tool Workers	14, 103
Reamer for Hardened Steel	149
Rivets, Blind	252
Sanding Belt for Inner Surfaces	151
Slide Rule	140
Small Shop Equipment (Craftmaster)	43
Soldering Stand	32
Soldering Tool, Hinged	92
Speeding Up Tool Production	64
Tap Reconditioner	252
Vise, Hydraulic	92
Wire Brush for Cleaning	94

WAR

Air Arm, U. S. Navy	121
Armor, Airplane	37
Battleship Types, Three Powers	220
Battleships of U. S. Navy	221
Blackout Bulbs	200, 271
Blackout Curtains for Homes	124
Blackouts, Decoy	288
Bomber-Fighter, British	278
Chemical Industry in Wartime	163
Civilian Defense, Scope of	51
Civilian Defense, Set-Up for	59
Cotton Chopped for Smokeless Powder	207
Defense Uses of Photography	286
Destroyer Funnel, Stainless	55
Destroyers in Navy, Place of	283
Fire Extinguishers, Carbon Dioxide	6
Gun Control, Flexible	99
Jeeps, United States Army	163
Light Planes in National Defense	114
Magazine Censorship	3
Magazines, War Effects on	283
Marines, Parachute Troopers of the	58
Naval Articles, Scientific American	123
Officers Attach Vehicle Operation	3
Parachute Troopers, Life Savers for	41
Parachute Troops, Marine	224
Photography, Military Uses of	271
Physicists in Wartime	187
Plane Detector, Portable	244
Reconnaissance Cars, Rollers on	97
Reconnaissance Cars, Winches on	81
Rockets, Military	205
TNT from Petroleum	185
Thunderbolt Interceptor	51
Torpedoes, Mechanics of	
War-Time Gardens	

WELDING

Automatic Welding Guns	281
Core Wire, Study of	66
Stud Removal	130
Tanks, Cart for	204
Welder for Thin-Gage Metals	33

WOOD. See also FORESTRY

Dry Rot, Prevention of	192
Paneling, Light Weight	29
Plywood, Study of	125
Plywood Airplane Floats	205
Plywood Planes	36
Wood, Modern Uses of	282

